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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,305	12/15/2003	Jian Wang	003797.00672	3862

28319 7590 04/06/2007  
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EXAMINER

TERMANINI, SAMIR

ART UNIT	PAPER NUMBER
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2178

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/06/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/734,305		WANG ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Samir Termanini		2178	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u>                                    | 6) <input type="checkbox"/> Other: _____                          |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :12/15/2003, 1/24/2005, 5/3/2005, 5/16/2005, 8/9/2005, 1/27/2006, 5/5/2006.

## DETAILED ACTION

### BACKGROUND

1. This action is responsive to the following communications: Application filed on 12/15/2003.
2. Claims 1-48 are pending in this case. Claims 1, 17, 29, and 41 are in independent form.

### INFORMATION DISCLOSURE STATEMENT

3. The information disclosure statements (IDS) submitted on 12/15/2003, 1/24/2005, 5/3/2005, 5/16/2005, 8/9/2005, 1/27/2006, 5/5/2006 have been acknowledged and considered by the examiner. Initial copies of the form PTO-1449 are included in this office action.

### ABSTRACT OF THE DISCLOSURE

4. The abstract of the disclosure is objected to because it exceeds 150 words. Correction is required. See MPEP § 608.01(b).

It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

CLAIM REJECTIONS - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Edwin A. Suominen (US Pre-Grant Publication 2003/0055655 A1)(hereinafter *Suominen*).

As to independent claim 1, *Suominen* describe(s): A method comprising: receiving electronic ink input ("...freehand input to generate and edit text data...", para. [0041]); generating a list of machine-generated text candidates based on the electronic ink input ("...text that has been generated (erroneously) by a message recognizer...", para. [0130]), the list including a first machine-generated text candidate and alternative machine-generated text candidates ("...a list of alternative text comparable to the selection is provided...", para. [0132]); converting the electronic ink input to the first machine-generated text candidate ("...shown by way of example in TABLE IV and

TABLE V...," para. [0132]); displaying the first machine-generated text candidate ("...displayed list of alternative text ...," para. [0133]); receiving speech input ("...voice input...," para. [0093]); converting the speech input to second machine-generated text ("...Speech recognizer 162 generates text data responsive to voice input from user 240 and provides the text data to editor 168...," para. [0045]), wherein the second machine-generated text is one of the alternative machine-generated text candidates and the list of machine-generated text candidates functions as a dictionary used for converting the speech input ("...text segments chosen from the corpus...," para. [0172]); and replacing the first machine-generated text candidate with the second machine-generated text ("...desired modifications to text data generated by speech recognizer 162 in accordance with editing commands communicated by freehand input and interpreted by tablet interface 164....," para. [0097]).

As to dependent claim 2, which depends from claim 1, *Suominen* further disclose(s): The method of claim 1, wherein the first machine-generated text candidate is a word ("...a word ...," para. [0004]).

As to dependent claim 3, which depends from claim 1, *Suominen* further disclose(s): The method of claim 1, wherein the first machine-generated text candidate is a portion of a word ("...text segments are referred to herein as "stop segments," and may include more or less text than a single word...," para. [0148]).

As to dependent claim 4, which depends from claim 1, *Suominen* further disclose(s): The method according to claim 1, further comprising receiving input selecting the first machine-generated text candidate prior to receiving the speech input

("... the selected text segment is modified responsive to the character input....," para. [0134]).

As to dependent claim 5, which depends from claim 4, *Suominen* further disclose(s): The method according to claim 4, wherein the selecting includes touching a user input device to a digitizer screen at a location corresponding to the first machine-generated text candidate ("...by stylus tap somewhere on the text....," para. [0092]).

As to dependent claim 6, which depends from claim 4, *Suominen* further disclose(s): The method according to claim 4, wherein the first machine-generated text candidate is a group of words or part of a word ("...a phrase of several words....," para. [0131]).

As to dependent claim 7, which depends from claim 1, *Suominen* further disclose(s): The method according to claim 1, further including displaying the list of machine-generated text candidates prior to receiving the speech input ("...the list of alternative text is updated, based on character data communicated after initiation of the correction mode....," para. [0133]).

As to dependent claim 8, which depends from claim 7, *Suominen* further disclose(s): The method according to claim 7, wherein said step of displaying the alternative machine-generated text candidates further includes displaying the alternative machine-generated text candidates in the list in an order based on a confidence level that each alternative machine-generated text candidate corresponds to the electronic ink input ("... The list includes text segments that each received a high

score (but not the maximum score) during hypothesis testing of the message recognizer. Two lists of alternative text of the type that may be produced..., " para. [0132]).

As to dependent claim 9, which depends from claim 1, *Suominen* further disclose(s): The method according to claim 1, wherein the alternative machine-generated text candidates include machine-generated text candidates based on the electronic ink input generated by a handwriting recognition engine ("...handwriting recognition engine..., " para. [0042]).

As to dependent claim 10, which depends from claim 9, *Suominen* further disclose(s): The method according to claim 9, wherein the alternative machine-generated text candidates include machine-generated text candidates based on the electronic ink input generated in accordance with a statistical language model ("...Probability  $\Pr(w_{\text{sub.i.w.sub.j.vertline.V}})$  may be computed (at least as an estimate) by any suitable statistical technique. For example, probability  $\Pr(w_{\text{sub.i.w.sub.j.vertline.V}})$  may be computed for a given combination of text segments  $w_{\text{sub.i}}$  and  $w_{\text{sub.j}}$  based on the total number of occurrence of segment  $w_i$  in matrix  $Z$ , divided by the total number of occurrences of all segments in matrix  $Z$ . The probability of shared cluster occurrence of text segments  $w_{\text{sub.i}}$  and  $w_{\text{sub.j}}$  may be estimated as the ratio between (1) the number of times text segments  $w_{\text{sub.i}}$  and  $w_{\text{sub.j}}$  can be paired together within semantic clusters of the corpus and (2) the total number of text segments in the corpus..., " para. [0173]).

As to dependent claim 11, which depends from claim 10, *Suominen* further disclose(s): The method according to claim 10, further comprising displaying the



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machine-generated text candidates generated by the handwriting recognition engine and subsequently displaying the machine-generated text candidates generated in accordance with the statistical language model ("...Language model 350 includes a syntactic model 352 and a semantic model 354. Syntactic model 352 provides a set of a priori probabilities based on a local word context, and may be a conventional N-gram model. Semantic model 354 provides probabilities based on semantic relationships without regard to the particular syntax used to express those semantic relationships. ...," para. [0146]).

As to dependent claim 12, which depends from claim 11, *Suominen* further disclose(s): The method according to claim 11, further comprising receiving input requesting the display of the machine-generated text candidates generated in accordance with the statistical language model while displaying the machine-generated text candidates generated by the handwriting recognition engine ("...Handwriting recognizer 314 then derives units of language (again, strings of text data) from the units of handwriting in accordance with language model 350....," para. [0145]).

As to dependent claim 13, which depends from claim 1, *Suominen* further disclose(s): The method according to claim 1, wherein the alternative machine-generated text candidates include text candidates based on the electronic ink input generated by a statistical language model ("...Probability  $\Pr(w_{\text{sub}.i}w_{\text{sub}.j} \text{ vertline}.V)$  may be computed (at least as an estimate) by any suitable statistical technique. For example, probability  $\Pr(w_{\text{sub}.i}w_{\text{sub}.j} \text{ vertline}.V)$  may be computed for a given combination of text segments  $w_{\text{sub}.i}$  and  $w_{\text{sub}.j}$  based on the total number of

occurrence of segment  $w_i$  in matrix  $Z$ , divided by the total number of occurrences of all segments in matrix  $Z$ . The probability of shared cluster occurrence of text segments  $w_{sub.i}$  and  $w_{sub.j}$  may be estimated as the ratio between (1) the number of times text segments  $w_{sub.i}$  and  $w_{sub.j}$  can be paired together within semantic clusters of the corpus and (2) the total number of text segments in the corpus....," para. [0173]).

As to dependent claim 14, which depends from claim 1, *Suominen* further disclose(s): The method according to claim 1, wherein the step of converting the speech input to the second machine-generated text includes determining if the speech input corresponds to one of the alternative machine-generated text candidates ("...Speech recognizer 312 generates text data in accordance with acoustic model 356 and shared language model 350....," para. [0126])(emphasis added); and converting the speech input to the corresponding alternative machine-generated text candidate when the speech input corresponds to the alternative machine-generated text candidate ("...speech recognizer such as a computer executing the NATURALLY SPEAKING software, the modifications to the selected text segment are entered when the user selects an "OK" control of a displayed user interface dialog. ....," para. [0134]).

As to dependent claim 15, which depends from claim 1, *Suominen* further disclose(s): The method according to claim 1, wherein further comprising the step of receiving an input confirming that the second machine-generated text candidate should replace the first machine-generated text candidate prior to performing said step of replacing (when the user selects an "OK" control of a displayed user interface dialog. ....," para. [0134]).

As to dependent claim 16, this claim differs from claim 1 only in that it is directed to a product defined by the process of claim 1. Accordingly, this claim is rejected for the same reasons set forth in the treatment of claim 1, above.

As to claims 17-28, these claims differ from claims 1-16, respectively, only in that they are directed to objects whereas claims 1-16 are directed to text. Since "text" is a type of object ("The machine-generated objects may correspond to words, lines, and/or other groupings of machine-generated text.", see applicants disclosure at para. [27]), claims 17-28, are rejected for the same reasons set forth in the treatment of claims 1-16, respectively.

As to claims 29-40, these system claims differ from claims 1-15 in that they are directed to a system for carrying out the methods defined by claims 1-15. Accordingly, claims 29-40 are rejected for the same reasons set forth in the treatment of claims 1-15 above.

As to claims 41-48, these system claims differ from claims 29, 31, 34, and 36-40 in that they are directed to "objects" whereas claims 29, 31, 34, and 36-40 are directed to "text." Since "text" is a type of object ("The machine-generated objects may correspond to words, lines, and/or other groupings of machine-generated text.", see applicants disclosure at para. [27]), therefore, claims 41-48, are rejected for the same reasons set forth in the treatment of claims 29, 31, 34, and 36-40.

CONCLUSION

7. Although not relied upon, the following prior art is made of record because it considered pertinent to applicant's disclosure:

Suominen, Edwin A.	US 20030055655 A1	Text processing system
Bangalore, Srinivas et al.	US 20040119754 A1	Context-sensitive interface widgets for multi-modal dialog systems
Bangalore, Srinivas et al.	US 20040122674 A1	Context-sensitive interface widgets for multi-modal dialog systems
Suominen, Edwin A.	US 20050171783 A1	Message recognition using shared language model
Bushey, Robert R. et al.	US 20050183032 A1	System and method for managing recognition errors in a multiple dialog state environment
Ditzik, Richard Joseph	US 6167376 A	Computer system with integrated telephony, handwriting and speech recognition functions

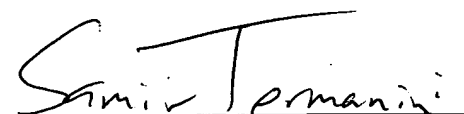
8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samir Termanini whose telephone number is (571) 270-1047. The Examiner can normally be reached from 9 A.M. to 4 P.M., Monday through Friday (excluding alternating Fridays).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Stephen S. Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-

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217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Samir Termanini  
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SUPERVISORY PATENT EXAMINER